

Zaki S. Ali

CONTACT INFORMATION	UC Berkeley Dept. of Astronomy 501 Campbell Hall #3411 Berkeley, CA 94720-3411, USA	zakiali@berkeley.edu
EDUCATION	Ph.D., Astrophysics, University of California, Berkeley Advisor: Aaron Parsons Expected Graduation: 2017 M.A., Astronomy, University of California, Berkeley Bachelor of Arts, Astrophysics, University of California, Berkeley Bachelor of Arts, Mathematics, University of California, Berkeley	August 2012-Present May 2015 May 2010 May 2010
RESEARCH INTERESTS	21 cm cosmology with an emphasis on data analysis techniques Instrumentation of low frequency interferometers	
PROFESSIONAL POSITIONS	Graduate Student Researcher <i>U.C. Berkeley Dept. of Astronomy.</i> Advisor: Aaron Parsons Junior Specialist <i>Radio Astronomy Lab, U.C. Berkeley.</i> Supervisor: Aaron Parsons	August 2012 - Present June 2010 - June 2012
TEACHING EXPERIENCE	University of California, Berkeley, Department of Astronomy Optical Lab (Teaching Assistant) Radio Lab (Teaching Assistant) Cosmology (Teaching Assistant)	Fall 2012 Spring 2013 Spring 2015
PRIMARY AUTHOR PUBLICATIONS	Z. S. Ali , A. R. Parsons, H. Zheng, J. C. Pober, A. Liu, J. E. Aguirre, R. F. Bradley, G. Bernardi, C. L. Carilli, C. Cheng, D. R. DeBoer, M. R. Dexter, J. Grobelaar, J. Horrell, D. C. Jacobs, P. Klima, D. H. E. MacMahon, M. Maree, D. F. Moore, N. Razavi, I. I. Stefan, W. P. Walbrugh, and A. Walker, “ <i>PAPER-64 Constraints on Reionization: The 21 cm Power Spectrum at $z = 8.4$</i> ”, <i>ApJ</i> , 809 (2015), p. 61. J. C. Pober, Z. S. Ali , A. R. Parsons, M. McQuinn, J. E. Aguirre, G. Bernardi, R. F. Bradley, C. L. Carilli, C. Cheng, D. R. DeBoer, M. R. Dexter, S. R. Furlanetto, J. Grobbelaar, J. Horrell, D. C. Jacobs, P. J. Klima, S. A. Kohn, A. Liu, D. H. E. MacMahon, M. Maree, A. Mesinger, D. F. Moore, N. Razavi-Ghods, I. I. Stefan, W. P. Walbrugh, A. Walker, and H. Zheng, “ <i>PAPER-64 Constraints On Reionization. II. The Temperature of the $z = 8.4$ Intergalactic Medium</i> ”, <i>ApJ</i> , 809 (2015), p. 62. A. R. Parsons, A. Liu, Z. S. Ali , and C. Cheng, “ <i>Optimized Beam Sculpting with Generalized Fringe-Rate Filters</i> ”, <i>ArXiv e-prints</i> : 1503.05564, (2015).	
COLLABORATION PUBLICATIONS	D. C. Jacobs, J. C. Pober, A. R. Parsons, J. E. Aguirre, Z. S. Ali , J. Bowman, R. F. Bradley, C. L. Carilli, D. R. DeBoer, M. R. Dexter, N. E. Gugliucci, P. Klima, A. Liu, D. H. E. MacMahon, J. R. Manley, D. F. Moore, I. I. Stefan, and W. P. Walbrugh, “ <i>Multiredshift Limits on the 21 cm Power Spectrum from PAPER</i> ”, <i>ApJ</i> , 801 (2015), p. 51. A. R. Parsons, A. Liu, J. E. Aguirre, Z. S. Ali , R. F. Bradley, C. L. Carilli, D. R. DeBoer, M. R. Dexter, N. E. Gugliucci, D. C. Jacobs, P. Klima, D. H. E. MacMahon, J. R. Manley, D. F. Moore, J. C. Pober, I. I. Stefan, and W. P. Walbrugh, “ <i>New Limits on 21 cm Epoch of Reionization from PAPER-32 Consistent with an X-Ray Heated Intergalactic Medium at $z = 7.7$</i> ”, <i>ApJ</i> , 788 (2014), p. 106.	

D. C. Jacobs, A. R. Parsons, J. E. Aguirre, **Z. Ali**, J. Bowman, R. F. Bradley, C. L. Carilli, D. R. DeBoer, M. R. Dexter, N. E. Gugliucci, P. Klima, D. H. E. MacMahon, J. R. Manley, D. F. Moore, J. C. Pober, I. I. Stefan, and W. P. Walbrugh, “*A Flux Scale for Southern Hemisphere 21 cm Epoch of Reionization Experiments*”, ApJ, 776 (2013), p. 108.

J. C. Pober, A. R. Parsons, J. E. Aguirre, **Z. Ali**, R. F. Bradley, C. L. Carilli, D. De-Boer, M. Dexter, N. E. Gugliucci, D. C. Jacobs, P. J. Klima, D. MacMahon, J. Manley, D. F. Moore, I. I. Stefan, and W. P. Walbrugh, “*Opening the 21cm Epoch of Reionization Window: Measurements of Foreground Isolation with PAPER*”, ApJ, 768 (2013), p. L36.

I. I. Stefan, C. L. Carilli, D. A. Green, **Z. Ali**, J. E. Aguirre, R. F. Bradley, D. DeBoer, M. Dexter, N. E. Gugliucci, D. E. Harris, D. C. Jacobs, P. Klima, D. MacMahon, J. Manley, D. F. Moore, A. R. Parsons, J. C. Pober, and W. P. Walbrugh, “*Imaging on PAPER: Centaurus A at 148 MHz*”, MNRAS, (2013).

J. C. Pober, A. R. Parsons, D. R. DeBoer, P. McDonald, M. McQuinn, J. E. Aguirre, **Z. Ali**, R. F. Bradley, T.C. Chang, and M. F. Morales, “*The Baryon Acoustic Oscillation Broadband and Broad-beam Array: Design Overview and Sensitivity Forecasts*”, AJ, 145 (2013), p. 65.

PROFESSIONAL TALKS

227th American Astronomical Society Meeting (January 2016): *21 cm Power Spectrum Upper Limits from PAPER-64*

UC Berkeley Thursday Lunch Talks (November 2015): *A Status Update on PAPER*

University of Kwazulu-Natal Cosmology Seminar (November 2015): *PAPER: An Experiment to Detect the Epoch of Reionization*

California Institute of Technology Tea Talk (June 2015): *PAPER: An Experiment to Detect the Epoch of Reionization*

The Olympian Symposium: Cosmology and the Epoch of Reionization (May 2015): *Enabling the 21 cm Power Spectrum with Advanced Analysis Techniques*

225th American Astronomical Society Meeting (January 2015): *New 21 cm Power Spectrum Upper Limit from PAPER I: Results from PAPER-64*

Early Science from Low-frequency Radio Telescopes (December 2014): *From PAPER-32 to PAPER-64: Lessons Learned*

Berkeley MWA Epoch of Reionization Workshop (June 2014): *A Status Update on PAPER*

SKILLS

Programming Languages

Python, Bash, L^AT_EX, HTML, CSS, Bootstrap, Simulink, Matlab, CASPER toolflow, SQL, C, C++, Cuda, VHDL, Verilog, Ruby.

Laboratory Skills

Experience with various lab equipment including oscilloscopes, multimeters, spectrum analyzers, network analyzers, power supplies (AC and DC), soldering, drill press, tapping holes, crimping, and setting up racks

Electronics Experience

Experience with many electronics components including, amplifiers, couplers, splitters, various types of filters, resistors, capacitors, inductors, attenuators, terminators, transformers.